Answer Key

Unit 1: Electricity

Session 1: Electricity Generation Concept

A. Fill in the blanks

1. Electrons
2. repel, attract
3. electricity
4. thermal
5. chemical reactions

B. Match the columns

1. (b)
2. (c)
3. (a)
4. (d)

C. Multiple choice questions

1. (b)
2. (b)
3. (d)
4. (c)
5. (b)

Session 2: Basic Units and Effects of Electric Current

A. Fill in the blanks

1. heating effect
2. Michael Faraday
3. tungsten
4. electromotive forces

B. Match the columns

1. (d)
2. (c)
3. (b)
4. (a)

C. Multiple choice questions

1. (a)
2. (b)
3. (d)
4. (a)
5. (b)

Session 3: Concept of Electrical Power and Energy

A. Fill in the blanks

1. generation, transmission
2. Watts
3. Voltmeter
4. kilowatt hour
5. drop

B. Match the columns

1. (b)
2. (c)
3. (d)
4. (a)

C. Multiple choice questions

1. (a)
2. (b)
3. (b)
4. (b)

Session 4: Importance of Earthing System

A. Fill in the blanks

1. earthing
2. short circuit
3. earthing lead
4. apparatus

B. Match the columns

1. (d)
2. (a)
3. (c)
4. (b)

C. Multiple choice questions

1. (a)
2. (b)
3. (d)
4. (a)
5. (a)

Unit 2: Handling of Tools and Equipment

Session 1: Tools and Equipment

A. Fill in the blanks

1. rachet
2. metal
3. plastic
4. neon

B. State whether the following statements are True or False

1. True
2. False
3. True
4. False

Session 2: Tools and Equipment used for Cable Laying

A. Multiple choice questions

1. (a) 2. (a) 3. (b) 4. (c)
5. (a) 6. (a) 7. (b) 8. (c) 9. (a)

B. State whether the following statements are True or False

1. True
2. True
3. False

Unit 3: Electrical Wiring Components and Accessories

Session 1: Identifying and Selecting the Wiring Material and Components

A. Fill in the blanks

1. conducting, insulating, semiconductor
2. electric circuit
3. capping wiring
4. Circuit breakers

B. State whether the following statements are True or False

1. False
2. False
3. True

C. Multiple choice questions

1. (a)
2. (a)
3. (a)

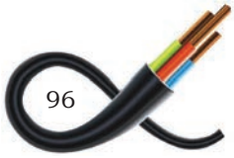
Session 2: ICTP Switch and Distribution Board

A Fill in the blanks

1. subsidiary circuits
2. negative side
3. Phase
4. fuse

B. Multiple Choice Questions

1. (a)
2. (c)
3. (c)
4. (d)



Session 3: Workplace Health and Safety Measures

A. Fill in the blanks

1. rubber
2. electric hazard
3. Cardio-pulmonary resuscitation
4. Circuit breakers

B. Multiple choice questions

1. (d)
2. (c)
3. (c)
4. (d)

Unit 4: Installation of Cables

Session 1: Laying of Underground Cables

A. Fill in the blanks

1. Murray loop
2. 240 Amps
3. High Tension (HV)
4. Erection stool

Session 2: Laying of AB Cables

A. Fill in the blanks

1. Jointing
2. Over current
3. Aerial Bundled conductor

B. Multiple choice questions

1. (a)
2. (a)
3. (a), (c) and (d)
4. (a)

C. Match the columns

1. (c)
2. (a)
3. (b)

Unit 5: Repairing of Cable Joints

Session 1: Electrical Cable Jointing Methods

A. State whether the following statements are True or False

1. False
2. True
3. True

Acronyms

AC: *Air Conditioner*
AC: *Alternating Current*
ADC: *Analog-to-Digital Converter*
BIS: *Bureau of Indian Standards*
BS: *British Standards*
CEA: *Central Electricity Authority*
CT: *Current Transformer*
CTR: *Current Transformer Ratio*
CTS: *Cabe Tyre Sheath*
CVT: *Capacitor Voltage Transformer*
DC: *Direct Current*
EEPROM: *Electrically Erasable Programmable Read-only Memory*
ELPD: *Earth Leakage Protective Device*
ELT: *Earth Leakage Temper*
GI: *Galvanised Iron*
HT: *High Tension*
HV: *High Voltage*
IEC: *International Electrotechnical Commission*
KCL: *Kirchhoff's Current Law*
KVL: *Kirchhoff's Voltage Law*
LCD: *Liquid Crystal Display*
LED: *Light-emitting Diode*
LT: *Low Tension*
LV: *Low Voltage*
MCB: *Miniature Circuit Breaker*
MDB: *Main Distribution Board*
MDI: *Maximum Demand Indicator*
MRI: *Meter Reading Instrument*
PD: *Potential Difference*
PT: *Potential Transformer*
PVC: *Polymerising Vinyl Chloride*
REV: *Revolution*
RST: *Referred for Phase Sequence*

RTC: *Real Time Clock*
SWG: *Standard Wire Gauge*
T&P: *Tools and Plants*
TRS: *Tough Rubber Sheath*
TV: *Television*
VIR: *Vulcanised Indian Rubber*
VT: *Voltage Transformer*

Notes

Glossary

AC Supply: *AC stands for alternating current. In an AC circuit the current changes direction in a cyclic manner. In India, the AC frequency is 50 Hz.*

Ammeter: *a device used to measure the current flowing through a circuit. Ammeter is always connected in series.*

Battery: *combination of two or more cells*

Conductor: *is the type of metal which allows the electrical current to flow through it.*

DP: *is erected in mid span of electrical transmission line for sport so that no deflection of single pole and wire take place.*

Galvanometer: *current indicating device*

Heating element: *a resistance which generates heat*

HT line: *High-tension line is a high voltage line. High tension or HT0 supply is applicable for bulk power purchasers who need 11 kilo-Volts or above.*

LT Line: *is a low-tension line is a low voltage line LT supply is of 400 Volts for three-phase connection and 230 Volts for single-phase connection in our country.*

Potentiometer: *is an electric element that has a variable resistance. It is used to change the potential difference across the circuit.*

Resistor: *it resists the flow of a current and thereby produce heat*

Stay: *is used to sport the angular poll and end pole. Stay is mainly used to hold the tension of conductor or cable.*

Stringing: *is the term used for tightening and pulling the cables on poles.*

Switch: *electrical current flow controlling device*

Transformer: *an element used to step up or step down the voltage. In an ideal transformer energy is conserved. So, if the voltage goes up the current goes down and vice versa.*

Voltmeter: *a device used to measure potential difference. Voltmeter is always connected in parallel.*

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Fig. 2.22 https://dir.indiamart.com/impcat/cable-roller.html